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Rosalyn J. Rettman THE TANZAM RAIL LINK: CHINA'S "LOSS-LEADER" IN AFRICA

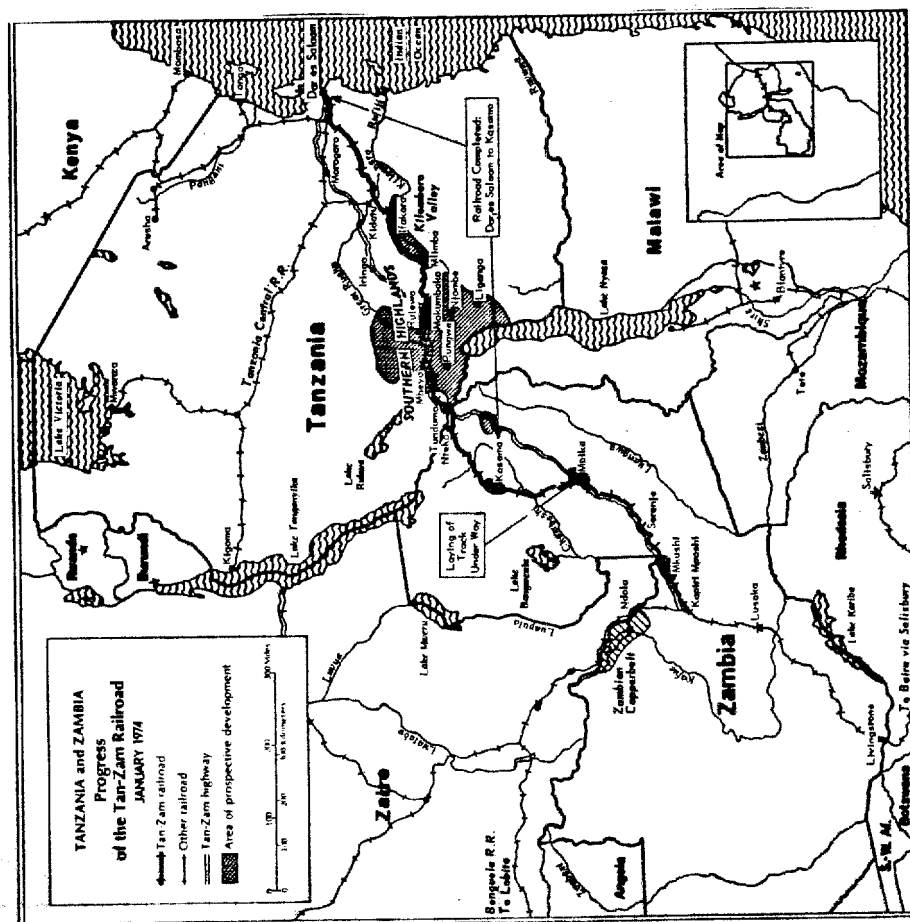
Introduction

The Tanzam Railway is the third largest foreign aid project ever undertaken—after the Aswan Dam and the Upper Volta Project. While these two larger projects received multilateral support, the Tanzam link is the largest aid project ever financed by a single nation. The railway represents a huge investment by the People's Republic of China—an investment of money, manpower, materiel, and national prestige. The hoped-for return on this investment is a position of Third World leadership, and influence for China throughout Black Africa. For Tanzania and Zambia, the significance of the project is as much ideological as economic, for the completed railway will free Zambia from dependence on the white regimes of southern Africa. The economic and symbolic ramifications of the project thus extend beyond the boundaries of Africa and into the international sphere.

Without minimizing the above statement, any analysis of the Tanzam Railway must be tentative and open-ended: first, because the project is presently in progress; secondly, because a great deal of information has not been revealed; and finally, because the financial success and ultimately the viability of the line is in large part dependent upon the price of copper in a fluctuating world market. For these reasons, judgments and conclusions must be considered subject to modification by future events and the availability of pertinent information.

I: Current Assessment

The Tanzam line will link the Zambian copper belt with the Tanzanian port of Dar es Salaam, a distance of 1,162 miles. Some of the terrain through which it is to pass is exceptionally difficult, especially the Tanzanian Southern Highlands and the northeastern



province of Zambia. Its projected route is sketched on the accompanying map. The line will not utilize transshipment via the East African Railway Central Line in Tanzania because this line uses meter gauge, while the Tanzam and existing Zambian lines employ 3'6" gauge (about a six-inch difference). Thus, the Tanzam line will use only new track throughout. China has agreed to finance and build this line and two major locomotive repair shops—in Dar and Mpika—as well as to provide training programs in railroad operation and maintenance for Tanzanians and Zambians locally and in China. The line will be single track with facilities for passing at small stations. The line's estimated maximum freight capacity is 3.5 million tons per annum. The trains on the Tanzam line will be carrying heavier loads and at a faster speed than do those on the East African lines.¹

Estimates of the cost of a Tanzam Railway have varied tremendously since the first serious survey was made in 1949-1951. At that time the cost was set at £33 million.² The 1964 estimate was £58.4 million, including rolling stock, locomotives, and interest payments;³ that of 1966, £126.3 million. The latest estimate places the final cost at £169 million, or between \$400 and \$412 million.⁴ China has extended this amount as an interest-free loan, repayable in thirty years beginning in 1983. Of this amount, the China-Tanzania-Zambia agreement stipulates that local costs of production—set at 52 percent of the total—must be repaid through the purchase of \$16.8 million of Chinese goods annually by each of the African states. In the case of Tanzania, for example, this would raise her Chinese imports from approximately \$9.5 million in 1970 to \$26.3 million.⁵ A further condition on the loan was the delivery of 1.1 million bags of maize from Zambia to China in 1969, a condition which, combined with adverse crop conditions in 1969-1970, precipitated a severe food shortage in Zambia.

Estimates of the number of Chinese technicians and workers presently at work on the railway in Zambia and Tanzania vary considerably, depending upon the source of information and whether the figure includes other Chinese technicians working in Tanzania. Keesing's *Contemporary Archives* reports 13,000 Chinese technicians as of July 1971,⁶ while the Tanzanian liaison officer for the Tanzam project reported 12,000 at the end of that month.⁷ *The Washington Post* however, estimates 15,000 Chinese as of August 1973.⁸

Work on the line began in July 1970. The currently projected completion date is the end of 1975. In Zambia construction of contiguous rail line has passed Kasama and sections of track are being laid near Mpika. Construction of the Tanzanian section of the line—a distance of 580 miles—was completed in August 1973.

The Tanzam Rail link has necessitated other improvements in transportation facilities, most notably expansion of the port of Dar es Salaam, being financed by the World Bank, to handle expected increases in import-export trade.⁹ More extensive plans at Dar include offshore tanker mooring and a submarine pipeline for the delivery of crude oil. Further, improvements in the East African Railways and its rolling stock are being financed by Britain and Canada, while Canada and the UN are financing the expansion of Zambia's national railway system.

Thus, despite some initial Western skepticism, the Tanzam Railway project is under construction and the articles of the agreement reached among Zambia, Tanzania, and China appear to be operating smoothly.

II: "The Knowns"

The idea of a railway link connecting Zambia and Tanzania was first advanced by Cecil Rhodes in connection with his proposed trans-African line. The idea has resurfaced several times since then. Most significantly, a Tanzam railway became a component of Zambian President Dr. Kenneth Kaunda's platform of promised improvements to follow independence. The issue of the Tanzam line became intertwined with the political programs and, more importantly, with the political ideology of both Kaunda in Zambia and President Julius Nyerere of Tanzania. It was thus removed from the sphere of purely economic-financial considerations and coated with political and ideological significance.

The situation following Zambian independence in 1964 underscored the state of economic dependency in which Zambia found herself. Her economy was, in all of its major facets, tied into the larger southern African sphere. Her railways were part of Rhodesia Railways; the coal for her extremely important copper mining came from Rhodesia; her source of electricity was the Kariba Dam, the powerhouse of which is

located on the Rhodesian side of the Zambezi River; her oil came via Rhodesian pipelines; her food imports came through Mozambique and Rhodesia; a great number of her consumer projects imported from South Africa; and her copper was exported almost totally through Rhodesia and Mozambique. When coupled with the fear of economic blockade on any of these services or commodities, such severe economic dependency on Rhodesia, Mozambique, and South Africa limited Zambian foreign policy and denied her economic sovereignty. The situation was bluntly stated by Radio Johannesburg in responding to Zambian accusations of Rhodesian and South African sabotage of the Zam-Tan pipeline in December 1970: the broadcast noted that, with Rhodesia as Zambia's supplier of coal and electricity and South Africa as her primary trading partner, "to indulge in minor sabotage would be ridiculous when Rhodesia and South Africa could so easily cause Zambia's bankruptcy."¹⁰ Thus, one of Kaunda's foremost aims was and is to gain economic freedom for Zambia.

Nyerere's economic considerations were far different. A railway line through Tanzania's Southern Highlands would promote more trade with Zambia, and promised to open up this potentially rich area to economic development for the first time. The area contains the fertile agricultural lands of the Kilemboro Valley and Usanga Plains and the coal and iron resources of the Ruhuhu Valley.

In economic terms, the motives of the Chinese People's Republic in this rail project include the increase in Chinese exports to Tanzania and Zambia through the clause referring to "locally incurred costs," as well as the hope that such trade would continue beyond 1975; possible Chinese importation of copper; the prospect of Chinese trade with all of East Africa; and finally the sale of equipment, diesels, and rolling stock to service the Tanzam line.

Given China's own pressing need for domestic capital investment and for technically skilled manpower, the above economic reasons hardly seem to warrant the investment of over \$400 million in a railway in Africa. When political and ideological factors are brought into consideration, however, the real significance of this project becomes apparent. China's political motives in financing and constructing the Tanzam are conditioned by her position in the system of international relations, her position vis-à-vis the African subsystem, and her competition with the USSR for influence in the Third World. On the most

obvious level, China has undertaken to complete a major project which was rejected as unfeasible for economic or political reasons both by the West and by the Soviet Union.¹¹ Military considerations may have entered into China's decision in that it is possible that a tracking station for Chinese intercontinental ballistic missiles, being tested in the Indian Ocean, may be in the process of construction on the Tanzanian coast.¹² Her further aims in courting Tanzania and Zambia in the late 1960s were to build up an anti-U.S. and anti-Russian African bloc, and to influence Black African states to support the People's Republic of China (PRC) as the sole representative of China—especially on the question of her admission to the UN.¹³ The PRC's excessively revolutionary style in her foreign affairs prior to the Cultural Revolution was in large part responsible for the earlier inclination on the part of African states to support Taiwan.

Chinese policy in Africa after the Cultural Revolution has emphasized much more flexible and subtle diplomatic tactics, and normal diplomatic relations with the African states. Since April 1969 diplomatic relations have been established with Ethiopia, Nigeria, Equatorial Guinea, and Cameroon. China had formerly been supporting opposition groups in all of these states except Equatorial Guinea.¹⁴ The PRC is concentrating on government-to-government relations, with its support of liberation movements confined to those groups in opposition to Portuguese and apartheid rule. Thus, the southern African liberation movements provide China an opportunity to maintain its revolutionary ideology without bringing it into conflict with Black and North African governments.

China's unconditional support of Black African liberation movements has without doubt redounded to her favor. She has totally identified herself and her goals with this cause. The color line between black and white in Africa runs directly through Tanzania and Zambia. China has made explicit her position in the racial war against white-dominated southern Africa, which she foresees in the not too distant future:

China, in building the Railway and arming, equipping and training anti-white guerrillas in Tanzania, has identified itself unmistakably on the side of Black Africa on the two major issues in that continent today: economic nationalism and the black-white confrontation.¹⁵

China's strong position on this question fits within her ideological framework. Following the pattern of the communist rise to power in China, Mao Tse-tung and Lin Piao have enunciated a theory of "World countryside versus World cities."¹⁶ Africa is clearly a part of the former, and her role in the revolutionary struggle against the developed northern hemisphere, containing the "World cities," must be impressed upon her.

The PRC is now cultivating the role of friend and protector of Africa's less developed countries. Moreover, China is seeking to become the leader of a large bloc of Third World states in the UN—a position within the international "Establishment." China has taken extremely strong stands vis-à-vis African questions in the UN. The *Peking Review* has printed numerous speeches given by the PRC delegation which strongly condemn imperialism, neo-colonialism, colonialism in Portuguese Africa, and apartheid. Chou Hua-min, head of the UN delegation, has emphatically responded to issues such as the revision of international trade agreements at the Third UN Conference on Trade and Development (UNCTAD) plenary meeting during April 1972. He concentrated on points of particular importance to Third World states—such as economic independence and international trade—and on the identification of China with the Third World, not as a superpower.

Like the overwhelming majority of Asian, African, and Latin American countries, China is a developing country and belongs to the third world.¹⁷

Further, the PRC's stated philosophy of foreign aid emphasizes the sovereignty of the recipient nation, mutuality of benefits for donor and recipient, and a "no-strings-attached" approach. The "patron-client" relationship common to so many aid programs is deemed invalid.¹⁸

In sum, given these considerations of prestige, politics, and ideology, China's motivation becomes understandable—she seeks the position of guardian of Tanzania and Zambia, and defender of non-white concerns in Africa—a racial role to which the Soviet Union can have few claims.

Tanzania and Zambia share an ideological commitment to the liberation movements of Mozambique, Angola, and Rhodesia. Their abilities to support these movements, however, are determined by different conditions. Tanzania, with Chinese support, harbors and trains guerrillas for operations in Mozambique. Dar es Salaam, Tanzania's

capital, is also the headquarters of various black liberation movements, such as the Zimbabwe African Peoples Union (ZAPU); Frelimo, the Mozambique liberation movement; and the Liberation Committee of the Organization of African Unity. Zambia's ability to support guerrillas, on the other hand, has been limited to allowing only transit through her territory to Rhodesia, Angola, and Mozambique—and not return to Zambia. Zambia's vulnerability to economic reprisals from southern Africa has been demonstrated by threats of the cut-off power from the Kariba Dam, the stoppage of coal imports from the Wankie collieries, and the cessation of machinery imports from South Africa for her copper mines.

The fears of the white-minority governments of southern Africa are real enough: black liberation movements are active in the Portuguese territories and Rhodesia, and they have been successful in eliciting at least the tacit approval of many non-whites in southern Africa. Chinese instructors have been training guerrillas in Tanzania for operations in southern Africa for many years. The expanded Chinese presence in Tanzania and their entry into Zambia to build the Tanzam has intensified southern fears of communist control of Central and East Africa, of increased and increasingly effective guerrilla activity, and of the use of the Tanzam Railway itself to transport large groups of guerrillas and shipments of guns to the white borders.

Since Zambia and Tanzania are the pivotal points in the black-white confrontation in Africa, they must maintain positions of economic and political independence—including freedom of action vis-à-vis their new mentor, China. Both countries have emphasized this. In 1970 Kaunda underlined his nation's position by stating that seventy years of British rule "did not turn us into capitalists and I don't believe that five years of association with the Chinese on the railroad will turn us into Communists."¹⁹

The opposition of Zambia and Tanzania to Rhodesia's Unilateral Declaration of Independence ("UDI," November 11, 1965) was strong and unbending. Their rejection of British foreign aid was based on principle: they refused to accept such aid until Britain denounced and took strong action against the illegal Smith regime. Strained relations with the West were further aggravated by Tanzania's recognition of East Germany and Nyerere's denunciation of the United States' actions in Vietnam and the Dominican Republic.

Further, Zambia and Tanzania's united front is strengthened by their fears of southern African aggression—military, political, and economic—coming from Rhodesia and the Portuguese territories around them—everything from border closings to aerial bombings. In 1969, for example, attempts were made to blow up the Ndola-Dar oil pipeline and the Tan-Zam Road.

Kaunda and Nyerere think that the Tanzam Railway will contribute to African unity by tying Zambia into Black Africa and will thus become a symbol of Pan-Africanism; that it will further the cause of African liberation; that it will insure Zambian independence; that it will somehow help safeguard Tanzanian and Zambian security; and that it will strengthen Black Africa's position and prestige in the international system.

In addition to these considerations, a factor which underlies the entire history of the Tanzam Railway and which cannot be overemphasized is the importance of copper to Zambia's economy and Zambia's importance to South Africa, Rhodesia, and the Great Powers as one of the largest producers of copper in the world. The magnitude of her production is indicated in the following table:

Copper Mine Production (in thousands of short tons) ²⁰					
	World	U.S.	Zambia	Chile	Canada
1970	N.A.	1,719	754.1	783.4	N.A.
1971	6,664	1,522	718.3 ^a	790.9	721.4
1972 (preliminary)	7,164	1,643	788.8 ^b	798.7	800.0
N.A.: Not available.					
^a Decrease due in large part to the Mufulira mine disaster.					
^b 717.1 thousand metric tons, with the Mufulira mine operating at only half production level.					

N.A.: Not available.

^aDecrease due in large part to the Mufulira mine disaster.

^b717.1 thousand metric tons, with the Mufulira mine operating at only half production level.

The transportation of Zambian copper through Rhodesia has been a major source of foreign exchange for Rhodesia. Further, Zambia is economically vulnerable because of her almost total dependence on copper as the source of her foreign exchange.²¹ Until she diversifies her economy, Zambia will remain open to the pressures of world copper price fluctuations.

Chinese aid to Tanzania—economic and military—predates the railroad project. Sizable credits were given to Tanzania, then Tanganyika, and Zanzibar, after the signing of an agreement on technical and economic cooperation in June 1964.²² A hospital was built by the Chinese in Zanzibar. Talks between Tanzania and China, held in February 1965, revolved around possible future aid projects, including a textile mill and a railway to connect Tanzania and Zambia. Nyerere and Kaunda had issued a statement in October 1964 stating their intention to build the Tanzam link, and indicated that they would be receptive to offers. China's offer in June 1965 was the first received.²³ This offer was timed so as to achieve the maximum effect: it was made during the Commonwealth Prime Ministers' Conference in London, where the primary topic was Rhodesia. Britain's Harold Wilson maintained that Rhodesia's demand for independence was a problem with which Britain alone would deal, and that the issue was not within the purview of the prime ministers from former British Africa.²⁴ This conference brought Zambia's relationship with Rhodesia into focus as Zambia's primary political concern. Early talk of a Tanzam link led Rhodesia Railway—at this point the unitary line of both Rhodesia and Zambia—to insist upon a clause to guarantee compensation to this railway for any traffic lost to any new railway line built in either Rhodesia or Zambia.²⁵

Rhodesian UDI in November 1965 made a drastic reorientation of Zambia policy and trade routes imperative. Zambia immediately began to search for alternatives so that the systems of railways, air services, electric power, and oil supply which she shared with Rhodesia could be dissolved. Zambia has developed the Maamba coal mines as an alternative to Rhodesia's Wankie collieries; has two new electric power plants under construction (Northern Kariba Dam and Kafue, 40 miles south of Lusaka) both with World Bank help; has built the Zam-Tan Pipeline from Ndola to Dar es Salaam with Italian aid; and has built the Great North Road to Tanzania.

The first survey of the Tanzam link during this period was that taken by the World Bank, the report of which is dated May 27, 1964. It was almost entirely negative about the project, maintaining that, given the existing network of railways and roads and the nature of commodities

traded in the area, the Tanzam link was not economically feasible nor justifiable. Upgrading the existing Great North Road, from Kapiri Mposhi to Iringa, would have been £40 million cheaper than building a railway. The report's focus was on growing intra-African trade in agricultural products as the source of traffic for the new railway. The report maintained that, with the cheap and efficient railways to Beira/Lourenco Marques and Lobito—which had capacity adequate for an estimated ten to twenty years, and potential for expansion with small additional investment—the need for a new bulk carrier was minimal. Further, the prospect of hooking the Tanzam line into East African Railway's Central Line at Kidatu, as was then planned, involved the additional expenses of transshipment because of the different rail gauges. The World Bank survey also included the total costs in compensation which Zambia would be required to pay Rhodesia Railways under their "loss of revenue" clause. The report states that, in any emergency, three adequate, though long and inconvenient, alternative routes existed, as well as highways.²⁶ The conclusion of this survey was that Zambia and Tanzania would be ill-advised to build this railway, and that, given a choice of a railway or a road, their goals would be better served by the improvement and expansion of the Great North Road highway link.

The World Bank report gives little consideration to the political situation in southern Africa, and does not mention the possibility of substantial diversion of copper shipments to the new line. No attempt was made to ascertain Zambian or Tanzanian political motivations nor to understand the symbolic and real impact of the Tanzam line in the political and racial confrontation evolving in southern Africa in the mid-1960s.²⁷ A UN survey late in 1964 agreed with the conclusions of the World Bank survey—i.e., that the project was too expensive for its returns and that it might set back Zambian development by tying up all her available funds.

Shortly after Chou En-lai's June 1965 offer,²⁸ a Chinese team of experts arrived in Dar to undertake a preliminary survey of the route to be followed by the Tanzanian section of the line. In September an inter-ministerial committee representing the Zambian and Tanzanian governments formally approached the governments of Britain, West

Germany, the United States, France, and China with requests to help finance the Tanzam line.²⁹ One week earlier Britain and Canada had offered to pay the cost of another survey of the route, the Maxwell Stamp survey.

During the time the Stamp survey was under way, Rhodesia declared her independence; Tanzania broke diplomatic relations with Britain; and Kaunda, more determined since UDI to end Zambian links with Rhodesia, searched for a country other than China to finance the rail link. He feared becoming dependent upon China and therefore favored a Western-sponsored consortium. He received little response. Nyerere, too, favored an international consortium through the African Development Bank. He was, however, determined to have the Tanzam, regardless of who financed it: "I don't care whether I get Communist or Western money," he declared in July of 1965, "I want this railway line and I'm not going to be stopped."³⁰

The conclusions of the Stamp survey, announced in August 1966, challenged all previous findings about the economic feasibility of the Tanzam line. Costs were estimated at £126.3 million plus the cost of the improvements of Dar's port facilities. The Stamp report also placed the capital investment for needed improvements of the Rhodesia Railways at over £84 million between 1965 and 1980—for the re-laying of heavier rail and the electrification of the system.³¹ Assuming that investment for rolling stock and locomotives would be identical for the Tanzam route or the expanded Rhodesian line, the Stamp survey computes the incremental investment for the Zambia-East Africa Rail Link (Z.E.A.R.L.) as £12.2 million. This comparison makes an evaluation of the Tanzam costs and benefits possible, setting aside all political considerations. The Stamp report calculated the amount of investment in Rhodesia Railways that would be avoided, were the Tanzam built, at £76.5 million by 1981; that is, that amount of new investment in the Rhodesian lines would be required if all Zambian copper continued to move via Rhodesia Railways through 1981.³² If all of Zambia's copper exports used the Tanzam link and if her level of imports via Tanzania were increased, the Tanzam would be economically viable, and would work at a surplus over operating costs beginning shortly after it went into use. Implicit in this statement is a 6

percent rate of interest. The Chinese, it will be remembered, are charging no interest. The Stamp report evaluated political as well as economic factors in reaching its conclusions. "The principal benefits," the report states, "unfortunately not quantifiable, lies [sic] in the safeguard afforded the Zambia economy by an alternative route able both to carry all its traffic, and at competitive rates."³³

It should be emphasized that at the time of these surveys and for an number of years thereafter Western experts concerned with the rail link did not expect nonresolution of the Rhodesian crisis to be a permanent state of affairs. It was assumed that some acceptable solution would be found to Rhodesian UDI which would facilitate the continued operation of Rhodesia Railways—through either continued joint ownership or cooperation between Zambia and Rhodesia. As the situation has continued to exist and has assumed the aspect of permanence, however, and as the undependable nature of rail transportation through Rhodesia has exposed Zambia to taxing economic and political pressures—as evidenced by the most recent Rhodesian border closure of January 1973—the political importance and economic viability of the Tanzam Railway have emerged more clearly. Had the crisis with Rhodesia since UDI been successfully resolved, the most compelling rationale for the link would have disappeared. Since this has not been the case, the southern routes cannot be considered real alternatives for Zambia. Rather, they are unreliable expedients to be employed only until the opening of the Tanzam link.

In July 1966 Britain, the United States, and the Scandinavian countries promised to help reorient Zambia's transport system away from Rhodesia Railways, but nothing further materialized. In June the Congo (DR—now Zaire) and Zambia agreed to the shipment of copper over the Benguela line through the Congo to Lobito, Angola. The Zambia-Tanzania Road Service, Ltd., was formed in November for the export of copper and import of general goods from Tanzania. The Great North Road, on which this company operated, was rebuilt and resurfaced with World Bank and U.S. aid, beginning in 1966.

The break-up of the Rhodesia Railway occurred in June 1967. Through this action Rhodesia could maintain a stranglehold on Zambia by threatening to cut off vital imports in transit through Rhodesia.

What was once merely a threat became a reality and caused Kaunda to change his attitude toward China. Whereas his relations with China up to this point had been cool, and he had refused to allow the Chinese survey team into Zambia earlier in the year, he now welcomed Chinese aid; on September 5 an agreement on the construction of the Tanzam Railway was signed in Peking by Mr. A. J. Soko, Zambian Minister of State, and Mr. Jamal, on behalf of Tanzania, Kenya, and Uganda (as joint owners of East African Railways). The Chinese survey began in May 1968. Further agreements on the route were signed on November 14, 1968, and final agreement on cost was signed on July 12, 1969. Construction began in the summer of 1970, while the formal inauguration was held on October 26.

Western reactions to these events were colored by reticence, a sense of belatedness, and a combination of skepticism and cynicism. The West underestimated both Nyerere's determination to build the line and China's willingness to do so. It miscalculated in not taking advantage of Kaunda's initial coolness toward Peking; moreover, the Western attitude has been one of skepticism as to China's ability to undertake such a project and cynical satisfaction that such a large percentage of the PRC's foreign aid capital is committed to one project.

Zambia and Tanzania's interpretation of the Western actions has been generally negative. Kaunda, at the inauguration of the line in 1970, maintained that the refusal of Western states to participate in the project was based on political and ideological objectives—namely, keeping Zambia dependent upon southern Africa so that her shipment of copper to the West is assured.³⁴

III: Alternative Routes

Several alternatives existed at the time Zambia decided on the Tanzam rail link with East Africa. One important alternative was the Great North Road which connects Kapiri Mposhi in Zambia with Dar es Salaam (see map). Since 1966 improvement of this road has been financed by the World Bank and the United States. In 1966 the Stanford Research Institute released a study of the highway. Unlike the World Bank and UN reports of 1964 which promoted the highway as the solution for the region's transportation problems—without adequate analysis of copper traffic, importation patterns, and political

factors—the SRI study notes the purpose and limitations of the highway: “The major traffic (exclusive of copper) that would be carried by a new TanZam Highway is local in character. . . .” Given the railway facilities existing at that time, “neither Route 1 [the existing Kapiri Mposhi-Dar route] nor Route 3 [through the Usangu Plain] is economically feasible to transport growth copper—copper produced above the 1964 level.”³⁵ Most importantly, the SRI report highlights the potentially complementary nature of rail and road, and the comparative advantages of each:

The proposed road would be complementary to a future railroad, should one be built, since it would provide feeder service to the railroad and facilitate development of new areas. A rail alignment through the Kilombero Valley would not compete with the economically attractive road routes (1 and 3) for normal growth and development traffic, but the railroad would undoubtedly be more economical for copper traffic and copper-related imports.³⁶

The route of the Great North Road does not pass through the agriculturally rich Kilombero Valley and runs 100 miles north of the Ruhuhu Valley in Tanzania—with its potential coal and iron resources.

Routes to the west of Zambia through Zaire and Angola, while possessing some geographic advantages, posed—and continue to pose—economic, political, and technical problems. The existing Benguela Railroad runs from Ndola on the Zaire-Zambia border, through Zaire's copper belt and Angola to Lobito on the Atlantic coast (see map). It is 90 percent owned by a British company, Tanganyika Concessions, Ltd., and utilizes wood-burning locomotives. The Cubal variant, a plan for improving the line by eliminating a 90-mile bottleneck near Lobito, was announced in April 1969. Currently under construction, its original completion date was projected as 1974. The Cubal variant should double the line's capacity. The Benguela Railroad, however, has line capacity limitations on the escarpment section.

The Zaire national railways, BCK, offers a second route to the Atlantic coast, employing transshipments from Port Francqui to Banana on two rivers and another railroad. The proposed expansion of this line would by-pass both rivers by directly connecting Port Francqui and Matadi—a distance of 700 miles—at an estimated cost of \$238 million. Work is proceeding on the section from Matadi to Banana, and port facilities are being built in Banana. The BCK, however, has a low

level of operating efficiency and is an unreliable carrier for Zambian copper.

Given the perspective of the mid-1960s, these alternatives were not particularly inviting. While an Atlantic terminus would shorten the distance to the copper markets, the actual saving on shipping charges was not great enough to offset the known inefficiency of the Zairian lines, the political kinship felt to exist between Zambia and Tanzania, and the advantageous terms of the Chinese offer. Further, using the route through Portuguese Angola was not only politically unacceptable to Zambia but also would have brought retaliation from Zaire for her loss of diverted Zambian traffic through the imposition of a surcharge on goods travelling on the Zairian portion of the Benguela line. The Stamp report noted that the Benguela and BCK railways needed an immediate expenditure of £18 million for track improvements, locomotives, and rolling stock in order to move the quantity of Zambian traffic being considered, plus an additional £35 million investment in line capacity alone for continued handling of the increased traffic. The Stamp survey questioned the wisdom of such investment in a route which is “subject to considerable disruption in operations.”³⁷

Another alternative was the route east across Zambia, Malawi, and Mozambique, involving roads to Malawi, then railroads around Lake Malawi, and railroads across Mozambique to the port of Nacala, north of Beira. This project is still only in the planning stage, no improvements having yet been made. Moreover, the use of transshipment and of transit through Mozambique make this route politically and economically unacceptable in the long run.

IV: The Curran Report

In 1971 James C. Curran produced an analysis of the circumstances in which Presidents Kaunda and Nyerere decided to accept the Chinese offer of aid. Based on his experiences as the U.S. Economic Officer in Dar es Salaam from 1966 to 1970 and on the accounts given by Stanton R. Smith, Chief Economist for Kaiser Engineers of California, the analysis he presents makes the action or inaction of the West more comprehensible.

On the question of motives, Curran agrees that Nyerere's were in line with his ideology and political stance, and that potential economic development was an important factor—more so for Tanzania than for Zambia. China, he maintains, was and is desirous of expanded markets, prestige, and the role of a partisan against white Africa. Her decision in favor of the project was made on an extremely high level of government, before the Cultural Revolution began. The Chinese surveys were ordered and undertaken during the chaos of this revolution.

Curran maintains that Kaunda had an additional objective—to gain independence from the foreign interests controlling Zambia, especially the foreign copper mine owners.

Curran identifies those Western interests opposed to the Tanzam as British interests in the existing railway systems, British and American interests in Zambian copper mines, and the white regimes of southern Africa. He concludes that the first two of these interests would have been much better served by Western participation in the Tanzam project than they were in attempting to block it.

Stanton Smith, in a memorandum to the President of the African Development Bank, explains the intertwining character of mining and rail interests in southern Africa and Zambia:

We have noted that the copper companies in Zambia, Katanga and in Rhodesia are held by a small group of financial interests operating within an international cartel. The interlocking directorates of these financial interests include extensive holdings from Katanga to South Africa. One of the major holding companies, Tanganyika Concessions, not only owns a major share of the copper mines, in Zambia and Katanga, but the world's largest coal mine, the Wankie collieries (in southern Rhodesia), which feeds a million tons into the copper belt via the Rhodesian Railway and also owns the Benguela Railway over which virtually all of Katanga's copper is directed to the sea.

It is therefore understandable that these copper interests should take an active part in opposing the Tan-Zam Railway utilizing their significant political influence in Western Governments. *The copper interests have much at stake; the construction of the Tan-Zam Railway will in the end be paid for primarily from the copper revenues and the profits on their investments in the alternative railway routes and in the existing coal mines in Rhodesia will be lessened as a result of the new railway and coal field developments in Tanzania.*

However, the interest of the copper companies in directly preserving the profits of existing investments by maintaining traffic on the existing railways is not the

most important reason for their opposition. The new railway will also insure the national, political, and economic integrity of Zambia. As long as Zambia is held to ransom by unfriendly governments with its lifelines to the sea passing through their territories, it will have to be amenable and compliant to the copper owners. *Without the Tan-Zam Railway, Zambia is not likely to follow Chile's aggressive taxation and nationalization policy.*³⁸

Kaunda's desire to break the hold of the two groups which controlled Zambia's mines, the Roan Selection trust (American and British) and the Anglo-American Corporation (South African with British capital), formed a major part of his determination to realize the Tanzam project. In order to prevent such a move, two alternate routes were presented to Kaunda—one through Botswana and South West Africa to an Atlantic port, and one linked into the Benguela line. Kaunda rejected both overtures.

The Zambian-Tanzanian-Chinese agreement was signed in July 1969. In the following month Kaunda announced his government's intention to acquire compulsorily 51 percent of the shares in the copper mines, as of January 1, 1970. The Industrial Development Corporation of Zambia was to control 51 percent of the two new mining companies established, while Roan Selection and Anglo-American controlled the remainder, as well as continued the management and sales of the mines. The development corporation issued external negotiable bonds to cover the cost of its shares. The copper mine owners' fears of an economically nondependent Zambia and a more aggressive Zambian position in regard to control of copper interests were thus realized when the Tanzam link received financial support from the PRC. With a Chinese commitment, Kaunda felt secure enough to assume majority control of the copper mines for Zambia.

Within this tangle of interests the actions of the World Bank and the British and American governments are found to have been motivated by considerations far different from those given in the press. Curran, on the basis of Smith's report, states that the World Bank survey was unjust, hasty, and limited. Officials of the World Bank acknowledge that it was in fact superficial—a "two-man, one-boy" job. It is Curran's belief that the World Bank was anxious to protect, by not allowing

effective competition, the economic viability of the transportation facilities for which it had already provided financing agreements.

Smith's report, as noted by Curran, proceeds further:

That the IBRD considered a Zambia-Tanzania link a threat to its investments in Rhodesian Railways is clear from a stipulation attached to its US \$24 million loan to the East African High Commission in 1955 for railway development. This provided that East African Railways "should not undertake the Makumbako extension [along the route of the current Tanzam] . . . out of funds provided nor should it commit itself to other loans for this extension without the approval of the World Bank."³⁹

Thus, the 1964 World Bank assessment of the Tanzam project assumed that Zambian copper shipments would not be diverted from the pre-Tanzam routes, that the traffic carried by this railway would consist of growing intra-African trade and agricultural production exclusively. Under this assumption, the line would operate at a loss until at least 1990.⁴⁰ As previously noted, the World Bank report assumed that traffic would be transhipped to the East African Central line, and that Zambia would be required to pay compensation to Rhodesian Railways for the loss of revenue. As of February 1969 it was decided to extend the new line to Dar, 150 miles beyond the original linkup point with the Central Line. With the breakup of the unitary Rhodesian Railway system in June 1967, Zambia was no longer bound by the revenue loss clause. Curran concludes that the World Bank survey had a clearly pro-Rhodesia Railway slant.

Kaiser Engineers, for whom Smith worked, had been seriously interested in undertaking the Tanzam Project. In August 1965 Smith approached Nyerere and Kaunda with Kaiser's offer of assistance. His own account of what happened follows:

. . . in August 1965 I obtained the enthusiastic agreement of both Presidents Nyerere and Kaunda for Kaiser to take over supervision of the immediate accelerated construction of the Tan-Zam Railway. My proposal, in which I was personally backed up by UN Undersecretary Robert Gardiner, was to utilize readily available contractor and supplier financing from Japan, Italy and other European countries to initial [sic] immediate construction.

The railroad was so highly profitable that it could readily repay medium-term

loans and would have been operating today [1971] (I gave the Presidents a 3-year schedule). . . . [Note: this is an enthusiastic salesman speaking.]

In 1965 I obtained President Kaunda's personal assurance that every ton of copper from central Africa would be directed by his government to the new railway but was instructed by (US) Ambassador Good to keep this information confidential. In the succeeding years the State Department continued to attack the economics of the railway with erroneous traffic information. . . .

The action of [Secretary of State] Dean Rusk on 29 August 1965, in instructing Ambassadors Good and Bernhardt* to inform Presidents Kaunda and Nyerere, during my contract negotiations, that "the US Government would not contribute financing or support Kaiser's construction of the Tan-Zam railway" contributed strongly to their ultimate decision to take up the Chinese proposal. At the time I was, of course, shocked at the Secretary of State's action as we had no need for American Governmental assistance and had not requested any.

Later the next month during our discussions in Washington we were told by the State Department officials that Rusk took this action to prevent our constructing the railway. I was also informed that Rusk and [President] Johnson personally overrode [Ambassador-at-Large W. Averell] Harriman's advice to support the project. . . . I feel Rusk's cable accelerated the downturn of American influence in black Africa. . . .⁴¹

Johnson and Rusk's veto of the Kaiser contract offer appears to have been in deference to major British and American interests.

Zambia and Tanzania felt that the Stamp survey of 1966 was being used as a delaying tactic by the British and American governments, and they were unwilling to participate. Unlike the World Bank survey, both states insisted upon laying down the terms of reference which the survey was to use, that is, that the southern African political situation was to be taken into account.

The conclusions of the Stamp report were, as stated earlier, favorable: that in the opinion of the surveyors, and on financial criteria alone, "the link can stand on its own feet as a worthwhile Financial Investment."⁴² The World Bank survey of 1964 had underestimated the rate of growth of the Zambian economy and the expansion of the Rhodesia Railways that this necessitated. The Stamp report, on the other hand, was more thorough and accurate in its forecasts of Zambian economic growth and the consequent strains it placed on the area's transportation system. The joint Tanzanian-Zambian request that the IBRD, ADB, and UN Development Program review the Stamp survey

*This name is incorrect; the American Ambassador to Tanzania at this time was William Leonhart.

and arrange for the financing of the project was made in August 1966. These organizations recommended that another survey of the Tanzam's economic feasibility and further technical studies be taken. Tanzania and Zambia approved the latter request but rejected another survey as redundant. At this, the ADB, UNDP, and IBRD dropped all further action.

Kaunda and Nyerere were well aware of the opposition of the American government to Kaiser Engineers' proposal. When Smith presented a draft contract to them from Kaiser on November 27, 1965, Kaunda and Nyerere, having been rebuffed and pressured by the American and British governments, were already proceeding along the Chinese course.

V: Progress and Prospects—Post-1966 Developments

As a result of Zambia's conscious efforts to redirect her transportation system, significant dislocation of trade away from southern Africa had occurred prior to the most recent Rhodesian border closing. Rhodesia Railways had suffered a decrease in traffic as well as revenue; the Portuguese ports of Beira and Lourenco Marques had been affected by Zambian attempts to utilize northeastern traffic routes; and South African and Rhodesian manufacturers and exporters were well aware of Zambian substitution of British goods for their own. Zambia herself, however, was open to countermeasures due primarily to her exposed political/economic/geographic position and adverse crop conditions. Having sent her surplus maize to China as part of the Tanzam agreement in 1969, Zambia was ill-prepared for the poor maize harvests of 1969-1971, which forced her to import maize, first from Tanzania and then from South Africa and Rhodesia. An unofficial blockade of maize and wheat destined for Zambia was imposed at the Mozambique ports and Lobito Bay, Angola, in the spring of 1971 in retaliation for the kidnap and murder of five Portuguese agricultural research workers by guerrillas reportedly operating from Zambia.

Retaliation against Zambia for the diversion of copper shipments occurred in 1971 with the Rhodesian government's enforcement of a 1968 ruling requiring Zambia to export a minimum of 25,000 tons of

copper per month on Rhodesia Railways. The government imposed a 50 percent surcharge on such low-rated Zambian rail traffic as maize and wheat when the minimum traffic requirement was not met—as in December 1970 and January 1971. This requirement also reduced Zambian imports via roads from Tanzania because an adequate return cargo of copper could not be guaranteed to the trucking firms.

Additional problems beset the Zambian economy. From 1965 to 1970, the official cost-of-living index rose 36 percent, primarily due to increased transport costs and the substitution of goods from the EEC, Britain, Japan, and the United States for relatively inexpensive consumer products from South Africa and Rhodesia.⁴³ Increased domestic demand for imports and the fall in copper prices contributed heavily to Zambia's balance of payments deficit of \$276 million in 1971—compared to a \$160 million surplus in 1970.⁴⁴ From March 1970 to January 1971 the price of copper on the London Metal Exchange fell from £748 per ton to £412. Coupled with the rising costs of production, the decrease in the rate of growth of production, and the severe Mufulira mine accident a few years ago, this drop in price had an important impact on Zambia's economy. Zambia and Tanzania have also experienced some difficulty in fulfilling the terms of the Tanzam agreement to purchase Chinese goods because of the limited range of commodities available—some of which compete with Tanzania's own infant industries—and limited quantities available, as well as problems concerning the quality of goods and their delivery to Africa. Tanzania's ability to absorb this increase in imports is also questionable.

Because of inflation, poor harvests, falling copper prices, and the consequent reduction of government revenues and foreign reserves, Zambia had been forced to compromise her policies vis-à-vis southern Africa. Beginning in late 1971, evidence of a major shift in the government's policy with regard to trade with southern Africa surfaced. The government's attempts to keep prices down and to conserve foreign exchange took the form of encouraging trade with the cheapest possible sources, including South Africa and Rhodesia.

However, the closure of the Rhodesian-Zambian border since January of 1973 has caused another revision of Zambia's political stance toward the south. The border was closed unilaterally by

Rhodesia on January 9 to protest the killing of two Rhodesian policemen by guerrillas, presumably operating from Zambia. All traffic, except the profitable shipment of copper, was to be stopped until the Rhodesian government was assured of Zambia's intention to control such guerrillas. In response, Kaunda stopped copper shipments through Rhodesia, and refused to reopen the Zambian border when Prime Minister Ian Smith declared the Rhodesian side open in early February—claiming that the action had been successful in that he, Smith, had received such assurances from Kaunda. Coal imports from the Wankie collieries were stopped in May.

Rhodesia's action in closing the border was conditioned by an awareness that, once the Tanzam rail link was completed, such measures would no longer constitute an effective economic sanction. As *The Rhodesia Herald* stated on January 10, 1973:

That [the border closing] will bring Zambia to heel, however—that it will make her restrain the terrorists operating from her soil—is another matter. There will always be the thought that the Tanzam rail link is not that far away—perhaps not more than a year.⁴⁵

Since that border closing, some of the ambivalence of Zambian policy toward the south has disappeared. Compromises which were evident in 1972 have been replaced by firm unremitting action since January 1973 to disengage from traditional economic links—with international support. Traffic through Rhodesia has stopped.

Zambia's continued defiance of Rhodesia has been made possible by South Africa and the Portuguese territories' disregard of the Rhodesian blockade. Traffic that had in the past been routed through Rhodesia is now passing through Mozambique and Angola, as well as Tanzania and Malawi, either by rail or road. Airlifts of vital imports—especially copper mining equipment and machinery—on commercial airlines have been allowed by South Africa. Other South African goods have been shipped to the ports of Lobito and Dar—the Tanzanian government having relaxed its embargo on South African goods during this emergency. European supplies of chemicals, machine spare parts, coke, and explosives have replaced imports from Rhodesia. Rhodesia's two main allies, which were not consulted when Rhodesia took action to

close the border, have undermined Smith's attempt to cripple the Zambian economy in order to force Zambian cooperation against the guerrillas.

South African self-interest helped to dictate her policy of blockade violation: if African markets were to be closed to South African exports—as the confrontation between Zambia and Rhodesia threatened they might—the South African loss would run approximately £160 million, in 1971 terms, of which the Zambian market accounted for £35 million.⁴⁶ Zambia, on the other hand, can rationalize its dealing with South Africa because, unlike Rhodesia, South Africa has a legitimate government.

Copper shipments before January 1973, totalling 56,000 tons per month, routinely directed 23,000 to 27,000 tons through Rhodesia, 13,000 tons via Benguela Railways, and 16,000 tons through Tanzania by road. These shipments have been rerouted in the following manner: 30,000 tons on the Benguela line, 20,000 tons through Tanzania, and up to 10,000 tons by road through Kenya to Mombasa. With Zambian copper exports expanding to a possible 75,000 tons per month by 1976, Benguela Railways has a maximum projected capacity of 40,000 tons and the Tanzanian route 44,000. The latter route utilizes the Great North Road and the completed section of the Tanzam Railway; it is hampered by the problems of transshipment from road to rail and congestion at Dar. The road alone has a projected capacity of 33,000 tons, while the Tanzam capacity, limited by the currently available rolling stock, is estimated at 60,000 tons of copper. Imports and exports to and from Zambia through Malawi and Mozambique of up to 200,000 tons per year have been promised.⁴⁷

By July 1973, Zambia had received additional aid of \$50 million in the form of grants and "soft" loans, in response to a UN Security Council resolution. The money is being used to purchase trucks and trailers to haul copper exports and import goods to and from Dar and to and from the railheads in Malawi. Of this amount, the PRC has given \$10 million and the United States \$5 million.⁴⁸

Given the present state of the partially finished Tanzam Railway, the closed border with Rhodesia and the large-scale redirection of traffic that this has entailed, and given the limited good will of Mozambique,

South Africa, and Angola, Zambia remains in a precarious position. Her economic well-being rests primarily on three factors: her export of copper, the world price of copper—which is rising rapidly—and her ability to import essential commodities and to control the magnitude of other imports. The Tanzam Railway will, when completed, assure that the means exist for Zambia to export copper and import needed goods. When coordinated with the existing road and rail networks in Central and Eastern Africa, the rail link will promote the development and internal integration of national economies of the region; moreover, it will permit Zambia to exercise a greater degree of political as well as economic sovereignty than was possible while she was dependent upon southern Africa. Further, the Tanzam will enable Zambia to support liberation movements in white-dominated Africa with less fear of economic retaliation. It is clear that the Tanzam will make Zambian economic independence possible. The real question that remains to be answered is how much influence and good will the Chinese have bought for themselves in Black Africa.

Notes

1. Legum sets the speed of the latter at 60 km/hour and that of the Tanzam at 100 km/hour, both of which appear high. The trip from Kapiri Mposhi to Dar is expected to take 3.5 days. See Colin Legum, ed., *Africa Contemporary Record, 1970-1971* (London: Rex Collings, 1971), p. C303.
2. H. C. Brookfield, "New Railroad and Port Developments in East and Central Africa," *Economic Geographic*, Vol. 31, 1955, p. 65.
3. "The Northern Rhodesia-Tanganyika Rail Link," International Bank for Reconstruction and Development, May 27, 1964, pp. 5-6.
4. In pre-devalued U.S. \$, *Keesing's Contemporary Archives, 1969-1970*, p. 24151. *The New York Times* reported the cost as \$500 million on August 27, 1973, p. 9—in devalued U.S. \$.
5. *New York Times*, January 29, 1971, p. 65.
6. *Keesing's*, 1971-1972, p. 24746.
7. *Africa Research Bulletin, Economic, Financial, and Technical Series* (hereafter, ARB), 1971, Vol. 8, no. 7, p. 2137.
8. *The Washington Post*, August 28, 1973, p. A18.
9. ARB, *Economic*, Vol. 8, no. 6, June 15-July 14, 1971, p. 2093. The amount involved is approximately \$32.2 million for ten deep-water berths.
10. ARB, *Economic*, 1970, Vol. 7, p. 1559, December 15-January 14.
11. See James C. Curran, *Communist China in Black Africa: The Tan-Zam Railway, 1965-1970* (Carlisle Barracks, Pennsylvania: U.S. Army War College, 26 April 1971), p. 67. The author thanks Mr. Curran for making this report available, and Professor Kenneth Grundy of Case Western Reserve University for drawing her attention to it.

12. See Curran, p. 20. As he explains, Zambia and Tanzania's adherence to the 1970 Lusaka Declaration banning the military use of this area by Great Powers is conditioned by semantics: Tanzania differentiates between "bases," which she forbids, and "facilities," which are permissible.

13. In fact, on the Albanian resolution to unseat Formosa and admit the PRC, the African vote tallied as follows:

For: Algeria, Botswana, Burundi, Cameroon; Congo-Brazzaville, Egypt, Equatorial Guinea, Ethiopia, Ghana, Guinea, Kenya, Libya, Mali, Mauritania, Morocco, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, Sudan, Tanzania, Togo, Tunisia, Uganda, Zambia.

Against: Central African Republic, Chad, Dahomey, Gabon, Gambia, Ivory Coast, Lesotho, Liberia, Madagascar, Malawi, Niger, Swaziland, Upper Volta, Republic of Zaire.

Abstained: Mauritius.

Source: *Africa, An International Business, Economic and Political Monthly*, published by Africa Journal Ltd., England, no. 5, 1971, p. 24.

14. Relations with the following states were either suspended or completely broken off during this period: Burundi (1965), the Central African Republic (1966), Dahomey (1966), Ghana (1966), and Tunisia (1967). Chinese activities in several other states, such as Kenya, were severely curtailed. Those countries with which China had established relations before April 1969, and retained during the Cultural Revolution, include Algeria, Congo (Brazzaville), Guinea, Kenya, Mali, Mauritania, Morocco, Somalia, Tanzania, Uganda, UAR, and Zambia. See Bruce D. Larkin, "China and Africa: A Perspective on the 1970's," *Africa Today*, July 1971.

15. Curran, p. 71.

16. See Richard Hall, *The High Price of Principles: Kaunda and the White South* (New York: Africana Publishing Corp., 1969).

17. *Peking Review*, #17, April 28, 1972, "China's Principled Stand on Relations of International Economy and Trade," p. 13.

18. See *Peking Review*, #17, April 28, 1972, pp. 13-14 and 15, "Eight Principles for China's Aid to Foreign Countries."

19. *New York Times*, February 17, 1970, p. 3.

20. U.S. Bureau of Mines, Department of the Interior. Canada, Zambia, and Chile have been closely tied for third place in recent years, and have been juggling positions.

21. It was 97% in 1969. See ARB, *Economic*, February 1971, Vol. 8, no. 1, p. 1930.

22. *Keesing's*, 1965-1966, p. 20755.

23. Thomas A. Corsi, "The Tan-Zam Rail Project," Honors Thesis, Political Science 398, Case Western Reserve University, May 13, 1971 (unpublished). In this paper, Corsi states that the first consultations between Myerere and Kaunda on this project occurred before Zambian independence, 1963; and that "in mid-1963, Kaunda announced that he had found a company [Lonrho] that was ready to build the railroad" (p. 30). Pressure from the copper companies caused this offer to disappear.

24. See Thomas Land, "Back Door to Zambia," *Forum World Features*, London: reprinted in *Atlas*, December 1965, pp. 376-77.

25. In the 1936 agreement, Zambia's copper companies agreed to ship all copper exports on Rhodesia Railways in exchange for a 20-year guarantee of fixed low tariffs by the Railways on this traffic. In 1957 the agreement was revised to allow up to 20% of total export tonnage to be shipped via the Congo (Zaire) national railways or the Benguela line, although this was discouraged by Rhodesia Railways. See Corsi, p. 28.

26. These were as follows: Albertville (Kalemie)-Kigoma-Dar es Salaam; Elizabethville-Port Francqui-Matadi (BCK); and Bulawayo-Mafeking-South African ports.

27. "The Northern Rhodesia-Tanganyika Rail Link," IBRD, May 27, 1964.

28. . . . and a popular African tour of Chinese acrobats.
29. *Keesing's*, 1965-1966, p. 21511.
30. *Keesing's*, 1965-1966, p. 20849.
31. See "A British-Canadian Report on an Engineering and Economic Feasibility Study for a Proposed Zambia-East Africa Rail Link," prepared by Maxwell Stamp, *Economic Report*, August 1966, pp. 221-26. (Z.E.A.R.L.)
32. Stamp survey, pp. 234, 281. Other improvements which could be avoided, were the Z.E.A.R.L. built, included a southern extension of the East Africa Railways line from Kidatu to Makumbako, at an estimated cost of £17.6 million. The report notes that as much as £150 million of transport investment appeared to be under consideration by Zambia, Tanzania, Rhodesia, and outside parties as of 1966 (p. 221). This survey calculated the Tanzam's operating cost at 0.83d per ton mile, as compared to the Rhodesia Railway's rate of 1.14d per ton mile.
33. Stamp, p. 173.
34. Legum, p. C306; and Mutukwa, *Africa Report*, January 1972, p. 11.
35. Stanford Research Institute, *Final Report: Tanzania-Zambia Highway Study*, September 1966, *Summary Report*, Prepared for: the Republics of Zambia and Tanzania and U.S. AID, p. 7. (SRI)
36. SRI, p. 8.
37. Stamp, p. 236.
38. Curran, pp. 50-51, quotes this from Stanton R. Smith, Chief Economist, Kaiser Engineers, Interoffice Memorandum: *Recommendation for the Construction of the Tan-Zam Railway*, to the President of the African Development Bank (ADB), August 31, 1966. ADB convened a group of consultants to advise on Tanzania and Zambia's request for financial assistance for the railway. Curran's emphasis.
39. Curran, p. 57, from Stanton R. Smith, Africa Development Bank Interoffice Memorandum: *Relevance of the U.S. Aid-financed Brookings Institution Transport Study to the Tan-Zam Railway Project*, to Mr. G. Mancini, ADB, January 27, 1967.
40. Curran, p. 58.
41. Curran, pp. 61-62, from Stanton R. Smith's letter to Curran, March 23, 1971.
42. Stamp, p. 290.
43. Marvin Howe, "White-Ruled Neighbors Lose Zambian Markets," *New York Times*, September 28, 1970, p. 2.
44. *African Recorder*, New Delhi, India, February 12-25, 1972, p. 3344. *IMF Balance of Payments Yearbook*, Vol. 4, June 1973, reports +149 million SDR's in 1970 and -259 million SDR's in 1971.
45. *ARB, Political, Social, and Cultural Series*, Vol. 10, no. 1, January 1-31, 1973, p. 2730.
46. Compared to approximately £218 million worth of South African exports to Britain. South African exports constituted 22% of Zambian imports in 1971. See *Keesing's*, 1973, March 26-April 1, 1973, p. 25797.
47. *Keesing's*, 1973, pp. 25797-25799. The recent increase in world copper prices from £424 per ton in November 1972 to £489 in January 1973 is helping to pay for the higher transportation costs of these alternate routes.
48. *The Washington Post*, July 14, 1973.